



**To:** Dave McAllister  
**From:** Steven Wolf  
**Date:** August 7, 2003  
**Subject:** Beacon Hill Tunnel & Station Contract  
Nighttime Construction Noise Variance Application  
Response to DCLU Comments

Based on the review comments received from DCLU and their consultant BRC of the *Nighttime Construction Noise Variance Application for the Beacon Hill Tunnel & Station Contract* dated March 14, 2003, two revisions were made to the application:

1. The maximum nighttime construction noise limits presented in Table 4-3 of the application have been revised to include an  $L_1$  noise limit which is 10 dB higher than the  $L_{eq}$  noise level limit. Corrections have also been made to the noise level limits for Sites BH 2 through BH 5. The revised Table 4-3 is attached at the end of this memo.
2. The estimated the nighttime construction noise at the West Portal, Beacon Hill Station, and East Portal (Tables 4-4 through 4-6) have been revised to include a 100 percent usage factor for each construction equipment assumed to operate at night. This is a worst case scenario that may occur for very limited periods. The revised Tables 4-4, 4-5, and 4-6 are attached at the end of this memo.

The Nighttime Construction Noise Variance Application will be revised for inclusion with the contract documents. The revisions to the nighttime noise level limits will also be included in Contract Specification Section 01564, *Construction Noise and Vibration Control*.

cc: D. Billen  
T. Beals

**Table 4-3  
Maximum Nighttime Construction Noise Limits (dBA)**

Site	Location	Average Existing Nighttime Noise Levels (12 am – 5 am)	Construction Noise Level Limits	
			Leq	L <sub>1</sub>
West Portal Construction Site				
WP 1	2917 12 <sup>th</sup> Avenue at Seaview Park	64 dBA	68 dBA	78 dBA
Beacon Hill Station Construction Site				
BH 1	El Centro - Jose Marti Child Development Center	56 dBA	61 dBA	71 dBA
BH 2	2608 17 <sup>th</sup> Avenue	58 dBA	63 dBA	73 dBA
BH 3	2702 17 <sup>th</sup> Avenue	60 dBA	65 dBA	75 dBA
BH 4	2802 17 <sup>th</sup> Avenue	60 dBA		
BH 5	2820 17 <sup>th</sup> Avenue	61 dBA		
BH 6	Laura Apartments, 2610 16 <sup>th</sup> Avenue	60 dBA		
BH 7	2817 16 <sup>th</sup> Avenue	56 dBA	61 dBA	71 dBA
BH 8	2801 16 <sup>th</sup> Avenue	57 dBA	62 dBA	72 dBA
BH 9	Lander Apartments, 2541 15 <sup>th</sup> Avenue	59 dBA	64 dBA	74 dBA
BH 10	2538 Beacon Avenue	60 dBA	65 dBA	75 dBA
East Portal Construction Site				
EP 1	3029 25 <sup>th</sup> Avenue	50 dBA	55 dBA	65 dBA
EP 2	2920 25 <sup>th</sup> Avenue	50 dBA		
EP 3	Mt. Baker Apartments, 2569 29 <sup>th</sup> Avenue	68 dBA	71 dBA	81 dBA
EP 4	2905 McClellan Street	58 dBA	63 dBA	73 dBA
EP 5	2825 29 <sup>th</sup> Avenue	50 dBA	55 dBA	65 dBA

**Table 4-4**  
**Estimated Nighttime Construction Noise at West Portal Site**

Equipment	Equipment Noise Level at 50 feet – dBA*	Usage Factor	Total Noise Level Unmitigated at 50 feet Leq (dBA)
Excavator	81	100%	81
Loader	75	100%	75
Roller Compactor	75	100%	75
Grader	81	100%	81
Dozer	81	100%	81
Mobile Crane	81	100%	81
Welder	73	100%	73
Concrete Trucks (2)	81	100%	81
Dump Trucks (2)	81	100%	81
Total Noise Level for Nighttime Operations at 50 feet			89
Site	Receptor Location		Noise Level at Receiver Site (dBA)
WP 1	2917 12 <sup>th</sup> Avenue at Seaview Park	Unmitigated	67
		Mitigated	N/A

\* Based on the maximum permitted Noise Emissions for Construction Equipment Used at the surface of the construction site during nighttime hours of 10 p.m. to 7 a.m. (see Table 5-1).  
N/A – Mitigation not identified since the estimated construction noise is predicted not to exceed the criterion of 68 dBA .

**Table 4-5**  
**Estimated Nighttime Construction Noise at Beacon Hill Station Site**

Equipment	Equipment Noise Level at 50 feet – dBA*	Usage Factor	Total Noise Level Unmitigated at 50 feet Leq (dBA)
Loader	81	100%	81
Excavator	81	100%	81
35 ton Crane	81	100%	81
Shaft crane	81	100%	81
Total Noise Level for Nighttime Operations at 50 feet			87
Site	Receptor Location		Noise Level at Receiver Site (dBA)
BH 1	El Centro - Jose Marti Child Development Center	Unmitigated	75
		Mitigated	67
BH 2	2608 17 <sup>th</sup> Avenue	Unmitigated	75
		Mitigated	67
BH 3	2702 17 <sup>th</sup> Avenue	Unmitigated	79
		Mitigated	70
BH 4	2802 17 <sup>th</sup> Avenue	Unmitigated	70
		Mitigated	62
BH 5	2820 17 <sup>th</sup> Avenue	Unmitigated	67
		Mitigated	59
BH 6	Laura Apartments, 2610 16 <sup>th</sup> Avenue	Unmitigated	71
		Mitigated	63
BH 7	2817 16 <sup>th</sup> Avenue	Unmitigated	69
		Mitigated	60
BH 8	2801 16 <sup>th</sup> Avenue	Unmitigated	72
		Mitigated	64
BH 9	Lander Apartments, 2541 15 <sup>th</sup> Avenue	Unmitigated	71
		Mitigated	63
BH 10	2538 Beacon Avenue	Unmitigated	72
		Mitigated	64

\* Based on the maximum permitted Noise Emissions for Construction Equipment Used at the surface of the construction site during nighttime hours of 10 p.m. to 7 a.m. (see Table 5-1).

**Table 4-6**  
**Estimated Nighttime Construction Noise at East Portal Site**

Equipment	Equipment Noise Level at 50 feet – dBA*	Usage Factor	Total Noise Level Unmitigated at 50 feet Leq (dBA)
50 ton crane	81	100%	81
Welder plant	75	100%	75
TBM crane	81	100%	81
Flatbed Trucks (2)	81	100%	81
Total Noise Level for Nighttime Operations at 50 feet			86
Site	Receptor Location		Noise Level at Receiver Site (dBA)
EP 1	3029 25 <sup>th</sup> Avenue	Unmitigated	74
		Mitigated	66
EP 2	2920 25 <sup>th</sup> Avenue	Unmitigated	63
		Mitigated	55
EP 3	Mt. Baker Apartments, 2569 29 <sup>th</sup> Avenue	Unmitigated	58
		Mitigated	50
EP 4	2905 McClellan Street	Unmitigated	58
		Mitigated	50
EP 5	2825 29 <sup>th</sup> Avenue	Unmitigated	58
		Mitigated	50

\* Based on the maximum permitted Noise Emissions for Construction Equipment Used at the surface of the construction site during nighttime hours of 10 p.m. to 7 a.m. (see Table 5-1).